

Bubble, Bubble, Toil and Trouble: A Dangerous Brew for Monetary Policy

Presented to the Cato Institute's 28th Annual Monetary Conference

Washington, D.C.

November 18, 2010

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The views expressed today are my own and not necessarily those of the Federal Reserve System or the FOMC.

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It is a pleasure to join you at Cato's 28th Annual Monetary Conference. In preparing today's remarks, I noted that this year's topic of how monetary policy should deal with asset prices was also discussed here in 2008. The speakers at that time expressed a wide variety of views and opinions. The fact that this important question continues to resurface here and at other prominent meetings in recent years suggests that a consensus has yet to emerge.

Today I will offer one policymaker's views on a few of the key issues. And I do mean one policymaker's views, as my remarks do not necessarily represent those of the Federal Reserve Board or my colleagues on the Federal Open Market Committee.

It is probably only a modest stretch to say that the prevailing view among many, if not most, monetary policymakers has been that a central bank should not make asset prices a direct focus of monetary policy.¹ Yet, the housing boom, its subsequent collapse, and the financial crisis that followed are viewed as central elements that gave rise to the Great Recession. These events have once again renewed the debate about whether a central bank should give asset prices a direct role in policy.²

The severity and financial nature of this recession has led many forecasters to anticipate a protracted period of modest economic growth, accompanied by a slow

¹ See Kohn (2009), Posen (2009), Bernanke and Gertler (2001), and Bean et al. (2010).

² See Cecchetti et al. (2000) and Roubini (2006).

decline in unemployment. Some even worry that the economy might fall into a deflationary trap. I am not one of them. Indeed, I am more optimistic than many about the future path of the economy. However, I share the frustration of many with the pace of recovery.

In light of these events and the outlook, it is easy to understand why many would want to reexamine the role of central banks in preventing such a crisis. How should Fed policymakers best ensure price stability and maximum sustainable growth? What role do booms and busts in asset prices play in fomenting economic and financial instability? To what degree should monetary policymakers allow asset prices to directly influence the course of monetary policy? This latter question is the focus of today's discussion and it remains a thorny issue.

Monetary policy, as conducted by the Fed, is typically guided by traditional concerns of monetary policymaking. These include a measure of output growth, and the current and expected rate of inflation relative to a target. The exceptions have been "lender of last resort" actions – such as lowering interest rates rapidly in the face of a liquidity crisis.

So, how should asset-price behavior influence the path of monetary policy? One point of view stresses that movements in asset prices can provide useful information about the current and future state of the economy, including the prospects for inflation. In this case, asset prices would be just one of many signals that monetary policymakers should consider as inputs to their forecasts of output and inflation. An alternative perspective has the stance of monetary policy reacting directly to movements in asset prices in an attempt to reduce or eliminate the formation of asset-price bubbles that could be damaging to the economy.

Asset Prices and the State of the Economy

Let's consider each of these arguments. The first rationale for paying attention to asset prices should not be very controversial. In my view of monetary policy, the

central bank should systematically vary its target interest rate in line with movements in an estimate of the real interest rate. In the face of economic shocks that result in an increase in the real interest rate, the central bank should respond by raising its target rate commensurately, as long as inflation is at or near its target. Failing to do so will lead to higher inflation in the future. Similarly, if shocks cause a decrease in the equilibrium real interest rate, then the central bank should lower its target interest rate to avoid disinflation. This approach is appealing because it is generally consistent with the optimal monetary policy rule in standard macroeconomic models with nominal rigidities.³

Note that by following a more systematic approach to monetary policy, as I have just outlined, policy actions provide a natural response to broad-based increases in real rates of interest that often accompany asset-price inflation. This systematic policy also provides a natural and predictable response as those rates decline. Indeed, it does so in the context of maintaining a low and stable inflation rate.

However, there are challenges to implementing this approach. First, we don't observe the real interest rate directly. Instead, we estimate it based on observations of inflation and proxies for expected inflation. Moreover, trying to infer movements in the real interest rate from changes in prices for a wide range of assets, some of which may be moving in opposite directions, is quite a challenge. Nevertheless, asset values can be a valuable source of information that can help determine the appropriate policy stance, but they are not an object of policy per se.

A slight variation to this argument is that policymakers' judgments about the inflationary or deflationary potential of the current stance of monetary policy could be informed by a wide array of market signals, including asset-price movements. Indeed, some research has suggested that rapid increases in asset prices – especially home prices – can provide particularly relevant information about the future course of

³ See Gali (2008).

inflation.⁴ Monetary policymakers may find it helpful to incorporate such information into their analyses and forecasts. For example, one of the Fed's stated reasons for beginning to raise rates in 1999 was the inflationary potential of high equity values. Since high equity values are consistent with a high rate of return on investment for a given level of risk, policy would require a high nominal interest rate to keep inflation stable. While research offers some support for the predictive value of various asset-price movements for the future path of inflation, the evidence is not overwhelming and varies considerably across assets. Perhaps more troubling is that we do not have a well-developed theory about how the monetary transmission mechanism transforms the relative price of various assets and thus how to interpret any empirical link between asset-price movements and inflation. Although Karl Brunner and Allan Meltzer, and James Tobin did early work on this issue, we have not seen much research on the subject for some time.⁵

So asset-price movements may be relevant in the normal course of monetary policymaking. But it is noteworthy that in this framework, the presumption is that asset prices are responding efficiently and correctly to the underlying state of the economy, and perhaps even to unexpected changes in policy.

Asset Prices and Bubbles

This brings me to the second argument for responding to asset-price movements. Many people believe that asset prices are not always tied to market fundamentals. They worry that when asset values rise above their fundamental value for extended periods – that is, when a so-called bubble forms – there will be an over-investment in the over-valued asset. When the market corrects such a misalignment – as it always does – the necessary re-allocation of resources may depress economic activity in that sector and even in the overall economy. These boom-and-bust cycles

⁴ See Stock and Watson (2003).

⁵ See Brunner and Meltzer (1989) and Tobin (1961).

induced by bubbles are inefficient and disruptive. So, the argument goes, policy should endeavor to prevent, or at least temper, these cycles.

This argument for monetary policy responding directly to the perceived mispricing of specific assets is more controversial, but the fundamental idea should be quite familiar. Many policymakers focus on measures of economic slack, such as the gap between the level of resource utilization and some concept of its potential or natural level. This natural level may be the natural rate of unemployment, or the potential level of output. These gaps are presumed to be inefficient, so policy seeks to reduce them. When output is below potential, monetary policy is accommodative; when output is above potential, the prescribed stance is restrictive.

In the same manner, some may want monetary policy to try to reduce or eliminate any perceived gaps in asset values from their equilibrium or natural levels. In this view, asset bubbles are like asset-price gaps – a signal of an inefficient allocation of resources. Yet, even if you accept this argument, it is not clear that monetary policy is the appropriate policy tool to address the problem.

In some ways, the arguments against basing monetary policy on output or unemployment gaps and those against basing policy on asset-price gaps – or bubbles – are the same. In both cases, the concerns challenge the presumption that policymakers can distinguish between departures from efficiency and an efficient response to an unobserved, yet fundamental shock. For instance, is the current high unemployment rate largely a consequence of cyclical weakness, perhaps reflecting an inefficient amount of aggregate demand? Or is it the efficient response to a real shock that requires a reallocation of labor across sectors and perhaps significant retraining due to an evolving mismatch between the skills of those looking for work and the skills that employers currently need? If it is a simple failure of aggregate demand, adjusting monetary policy may help. But if the unobserved shock causes a mismatch in skills within and across firms, accommodative monetary policy will not effectively address the

problem, and thus risks higher inflation.⁶ The difficulty in accurately measuring gaps is a serious matter. Work by Athanasios Orphanides and others has argued that the heavy reliance on mismeasured or misperceived output gaps was a significant contributor to the excessive monetary accommodation that led to the Great Inflation in the 1970s – not one of the Fed’s finer moments.⁷

Now imagine the difficulties in determining asset-price gaps. When asset values rise sharply in a bubble-like fashion, it may be difficult to determine whether the rise is based on market fundamentals. This is particularly true in the early stages of a boom. For instance, an increase in equity values may look high when compared with an increase in the *level* of corporate profits. Yet, the values may be more in line when viewed as a response to an increase in the *growth rate* of future profits. Unfortunately, it is very difficult to distinguish between an increase in the level of corporate profits that may eventually reverse and an increase in the growth trend itself. Only the passage of time will reveal which of these two events really happened.

Because it is difficult to discern a genuine misalignment of asset prices from a change in asset prices driven by fundamentals, monetary policy actions that respond to such price changes could generate even bigger inefficiencies than those it was designed to correct. We must remember that monetary policy operates with one instrument – the short-term nominal interest rate. It is challenging enough to calibrate and communicate our policy stance when we try to balance the perceived tradeoffs between output gaps and inflation. Adding asset-price gaps to this mix will push us well beyond our capabilities and will more likely be a source of discretionary mischief and mayhem than stability. Just imagine an environment where financial market participants, wanting to lock in their profits from being long or short in some asset, would call for the Fed to act to support a continued rise in the asset price or burst an incipient bubble. It seems counter-productive to encourage such an environment.

⁶ See Plosser (2009).

⁷ See Orphanides and van Norden (2002).

Sound policymaking requires us to understand the limits of what we know. I doubt we could find enough agreement among policymakers or economists about the interpretation of asset-price movements to allow for stable, rule-based policymaking. In the absence of such a clearly stated rule, we risk uncertainty about central bank policy itself as well as its effect on the economy. That could become a source of volatility in asset markets and, ultimately, in real activity and inflation. Put more bluntly, asset prices are often volatile, and creating expectations that monetary policy will intervene directly to influence the price-setting mechanism seems more dangerous for the orderly functioning of markets than helpful even in the rare instances when a true and significant distortion may in fact exist. Humility in policymaking requires that we respect the limits of our knowledge and not overreach, particularly when it involves over-riding market signals with policy actions.

Another challenge in addressing asset-price bubbles in practice is that contrary to many economic models, in reality there are many assets, not just one. And these assets have different characteristics. For example, equities are very different from homes. Misalignments or bubble-like behavior may appear in one asset class and not in others. But monetary policy is a blunt instrument. How would monetary policy go about pricking a bubble in technology stocks in 1998 and 1999 without wreaking havoc on investments underlying other asset classes? After all, while the NASDAQ grew at an annual rate of 81 percent in 1999, the NYSE composite index grew just 11 percent. What damage would have been done to other stocks and other asset classes had monetary policy aggressively raised rates to dampen the tech boom? During the housing boom, some parts of the housing market were experiencing rapid price appreciation while others were not. How do you burst a bubble in Las Vegas real estate, where house prices were rising 45 percent by the end of 2004, without damaging Detroit, where house prices were increasing less than 3 percent?

I know some macroeconomic models do call for monetary policy to respond to asset-price movements, if bubbles occur.⁸ Yet, such theoretical results are very sensitive to the specification of the model. They generally do not address the reality that there are multiple asset classes, which all may behave differently.

Thus, while I understand the desire to use monetary policy to reduce or eliminate misalignment of asset prices, I believe that implementing such a policy as a practical matter would not help us deliver better performance in terms of price stability and sustainable output growth.

Conclusion

In summary, I would not advocate raising interest rates simply to lower asset prices when they appear to deviate from fundamentals. This is a policy that is easy to get wrong and fraught with risks. Moreover, policy directed to influence asset prices could encourage discretionary actions by the Fed that would draw it ever deeper into credit allocations and the determination of relative prices. That should not be the role of monetary policy. There are lessons for monetary policymaking in the wake of the financial crisis. Indeed, I believe that we are discussing the question of asset prices and monetary policy today, at least in part, because Fed policy during mid-2000s “went off track.” John Taylor has argued forcefully that the Fed kept interest rates too low for too long from 2003 to 2005. As an erstwhile member of the Shadow Open Market Committee, I stood in this very room in 2003 and 2004, expressing concerns that the fears of deflation were excessive and that policy was probably too accommodative. The error may not have been that policymakers failed to pay attention to the fast upward rise in asset prices, but that they deviated from a systematic approach to setting nominal interests. The policy approach that I have advocated would increase the interest rate target in line with the increases in underlying real interest rates as a systematic form of inflation targeting. That would most likely lead to raising rates as return on assets also rise.

⁸ See Cecchetti et al. (2000) and Filardo (2004), among others.

Thus, even in the wake of the financial crisis, I continue to advocate that the Fed follow a systematic approach that keeps monetary policy focused squarely on inflation and output growth, but especially on inflation. To the extent that booms may engender excess leverage in systemically sensitive parts of our financial system, we need to ensure that regulations and institutional structures are designed to enhance market discipline in ways that keep risk-taking under control. Monetary policy should retain its focus on providing price stability as a means to support sustainable growth in employment and output over the long run and not chasing incipient bubbles.

References

- Bean, Charles, et al. "Monetary Policy After the Fall," Federal Reserve Bank of Kansas City Annual Conference, Jackson Hole, WY, August 2010.
- Bernanke, Ben, and Mark Gertler, "Should Central Banks Respond to Movements in Asset Prices?" *American Economic Review*, 91:2 (May 2001).
- Brunner, Karl, and Allan Meltzer, *Monetary Economics*, (Oxford: Basil Blackwell, 1989).
- Cecchetti, Stephen, et al. "Asset Prices and Central Bank Policy," Geneva Reports on the World Economy, Center for Economic Policy Research (July 2000).
- Filardo, Andrew, "Monetary Policy and Asset Price Bubbles: Calibrating the Monetary Policy Trade-offs," BIS Working Paper No. 155 (2004).
- Gali, Jordi, "Monetary Policy Design in the Basic New Keynesian Model," in *Monetary Policy, Inflation, and the Business Cycle* (Princeton University Press, 2008), Chapter 4.
- Kohn, Donald, "Monetary Policy and Asset Prices Revisited," *Cato Journal*, 29:1 (Winter 2009).
- Orphanides, Athanasios, and Simon van Norden, "The Unreliability of Output Gap Estimates in Real Time," *Review of Economics and Statistics*, 84:4 (November 2002), pp. 569-83.
- Plosser, Charles, "A Perspective on the Outlook, Output Gaps, and Price Stability," speech to Money Marketeers, New York, May 21, 2009.
- Posen, Adam, "Finding the Right Tool for Dealing with Asset Price Bubbles," speech to the MPR Monetary Policy and the Economy Conference, December 1, 2009.
- Roubini, Nouriel, "Why Central Banks Should Burst Bubbles," *International Finance*, 9:1 (May 2006).
- Stock, James, and Mark Watson, "Forecasting Output and Inflation: The Role of Asset Prices," *Journal of Economic Literature*, 41:3 (September 2003).
- Tobin, James, "Money, Capital, and Other Stores of Value," *American Economic Review*, 51:2 (1961).